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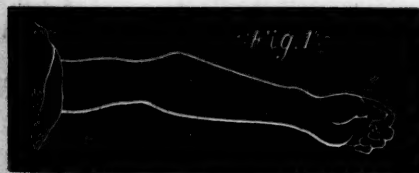
FRACTURES INVOLVING OR APPROXIMATING THE ELBOW-JOINT.

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Read before the Philadelphia County Medical Society,
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GENTLEMEN,—About three years ago I published in the *Medical and Surgical Reporter** an article under a title similar to that of my present paper. The article was read by some of my friends, with whom I have discussed the more important points, and has further had the effect of bringing to my notice deformities like that pointed out in the original paper. I am thus at the outset happy to state that a larger experience has confirmed the correctness of the views there set forth, while the importance of the subject and the peculiar interest manifested in it by the general medical profession sufficiently warrant me in bringing the subject before this Society at this time.

Let me first, then, call the attention of the Society to the peculiar deformity to which I allude. By reference to Fig. 1—



left arm taken from a photograph—a peculiar angular deformity will be observed, which, when compared with a sound arm, and especially in a thin, ill-developed arm, is very striking.

This deformity, which has been noticed so frequently by physicians in the present and past generations, is due to the splints used during the repair of the joint, and hence I propose to note the anatomical peculiarities of the joint, and to show why the manufactured splints are so uniformly productive of mischief.

The elbow presents the best example of a hinge joint. There is, in fact, but one motion enjoyed by this articulation, and

that is the one of flexion and extension. To the freest motion of flexion and extension none of the ligaments of the joint offer any obstacle, but when any attempt is made to move the forearm laterally upon the arm, then the function of the lateral ligament is manifest. The joint is mainly made up of two bones,—the humerus and the ulna,—and these two bones bear the fixed and constant relation to each other that the two leaves of a hinge or pages of a book bear to each other. But, while the joint is a hinge, the two bones that mainly constitute it do not, like the leaves of a hinge, lie in the same plane or in the same direction. If we cast the eye along the humerus in a ligamentous preparation, we shall see (Fig. 2) that the ulna curves ab-



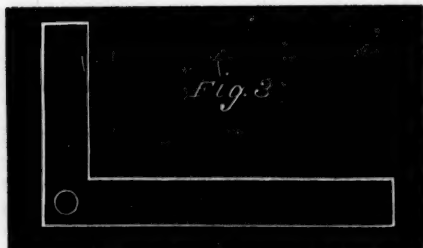
ruptly towards the outer surface of the humerus, so that if a line is projected along the shaft of the humerus it will fall far below the carpal extremity of the ulna. This deflection of the forearm from the arm corresponds to a similar deflection between the bones of the thigh and leg, and, as it is a law of nature, is the most beautiful and useful position of the limb. This angular junction of the bones of the arm and forearm, thigh and leg, is most manifest when the limbs are extended, and disappears when the limb is flexed at a right angle.† It would thus appear that when the arm is bent at a right angle it is in the most favorable position for a cure without deformity. Although this be admitted, and knowing that teaching and practice have always been to splint the arm at a right angle and place it in a sling by the side of the chest, still it is a fact which no one of experience will question that deformity too generally follows injury in this locality; and this deformity is due to the *kind* of splint used, and the *manner* in which it is used. I am careful to state that part of the injury may depend upon the *manner* in which the splint is used, for the mere fact that a splint bearing the name of a surgeon maintains its

† This feature was called to my attention by Dr. J. M. Barton, of this city,—a point of which I was unaware when my first article was written.

* See that journal, July 1, 1876.

popularity long after the decease of the surgeon, and, I might add, long after his writings and works have been shelved, is potent evidence of intrinsic worth.

The first splint that I shall examine is the one known as the internal lateral splint, represented by Fig. 3, and too



familiarly known to require explanation. This splint is adapted to the inner aspect of the humerus, and the inner condyle is protected against pressure by a round hole in the splint. The forearm and hand rest upon the splint in a state between pronation and supination, and when the limb is dressed it may be carried by the side, and really appears to meet every indication. But it must be borne in mind that in fractures involving or approximating this joint the *lateral security* is no longer present, and that the arm can be made to adapt itself to the splint. If now we place this splint upon the limb and examine it, we will see (Fig. 4) that the upper part of the

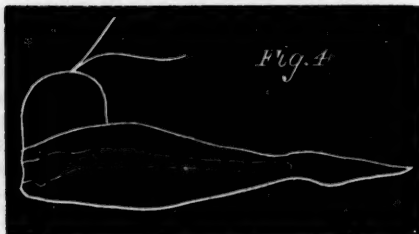


Fig. 4 represents the arm and forearm elevated nearly to a level with the shoulder and bent at right angles, ready for the application of the internal lateral splint. It must be evident that the ulna will find no support in the splint, and hence when a bandage binds the forearm to the unyielding splint, the ulna will, in case of fracture involving the joint, be drawn to the splint, and when repair is complete the deformity seen in Fig. 1 will ensue.

ulna is not supported, and the application of a bandage will draw this arched portion of the ulna down towards the splint. It could not draw it down if it were not for a fracture in or about the joint; but when either condyle is fractured, or a fracture occurs above the condyles or between them, or when it occurs in the upper part

of the ulna, then a bandage applied along the wrist and forearm exerts a powerful leverage upon the part, and draws the yielding broken bone to the fixed and unyielding splint.

The same objection may be made to the anterior angular splint. The two arms of the splint do not lie in the same planes as the humerus and ulna do, and hence, when used in case of fracture, the splint, being wood and unyielding, cannot be adapted to the limb. The limb is and must be more or less under the control of the splint, and, when the cure is complete and the two arms are compared, a deformity will almost invariably ensue.

What I have said of these splints I apply, with almost equal justice and earnestness, to every *manufactured* splint. I am careful to emphasize the word "manufactured," for many reasons. The wooden manufactured splints cannot be made for all ages,—from early childhood to maturity,—and, if they could, no physician would carry such a stock to be ready for all emergencies. But even had he the splints for every age, yet it is quite as important that the splint should be adapted to the condition of the limb,—i.e., thin, muscular, or plump, or swollen; and hence so much judgment is necessary in meeting every condition, that when I have a fracture of this region to care for I never use *manufactured* splints. I prefer to use splint material, and to construct for each case a dressing best suited to its needs.

Of splint material there is an abundance now to choose from. Felt* and binders' board can be adapted to the part, after having been dipped for a few moments in boiling water, and, when they dry and harden, become a splint superior in every respect to the best manufactured splints in the market. Besides these, there are so many well-known preparations† which harden in a few hours, that one can hardly

* The only parties that are now manufacturing felt for the accommodation of surgeons are C. & J. Pierce, of Bristol, Bucks County, Pa.

† One of the most convenient is the white of eggs and flour. Take the whites of two eggs and beat into them flour until it forms a glutinous paste; this when applied to muslin will soon harden, and can be made of any desired firmness and strength by repeated layers.

Another that may be kept on hand and ready for use is:

Gelatin (in small pieces) . . . 7 ounces.

Water . . . 5 "

Dissolve with gentle heat, and add

Alcohol . . . 4 "

This will dry in about two hours, and becomes stiff and tough.

Starch, glue, a solution of shellac in alcohol (often styled shellac varnish), plaster of Paris, silicate of soda, are or have been employed for this purpose.

imagine a circumstance in which the old-fashioned but still patronized wooden splint would be necessary.

It is not possible to lay down a set of rules, let them be ever so elaborate, that will meet every case. In every department of medicine it is the part of wisdom to meet the indications; *to assist nature*. In offering, then, some remarks upon the dressing of this peculiar deformity, I must not be regarded as issuing a dictum; I desire merely to call attention to a course of practice wholly, in some respects, adverse to popular teaching; not to show that the time-honored custom is wrong, but rather to show that a deviation from it may at times be safely followed. Two points in the usual practice of dressing injuries of the elbow-joint I wish to call attention to: 1st, *the use of an angular splint*; 2d, *early passive motion, to prevent ankylosis*.

The Use of an Angular Splint.—I have already called attention to the angular splint, and to my reasons for believing that its use has been productive of deformity. Hence I abandoned it from the outset, and in the first case that presented itself to me in my service at Howard Hospital,* after carefully ascertaining that I had a fracture of the internal condyle, in a little girl about 4 years of age, I took the arm, placed it in an easy extended position, and compared it with the sound arm. Now, while thus extended in a position most favorable for the detection of any deformity, I encased the elbow, arm, and forearm with strips of adhesive plaster. This done, the little child was dismissed, with the arm extended, encased with adhesive plaster at the elbow, but free at the wrist and hand, and swinging freely from the shoulder. In other words, I merely secured the elbow, making it immovable without interfering with any other functions of the limb. As this was an experiment, I felt it my duty to watch it closely, and gave the mother the strictest direction to call upon me immediately in case of crying or any expression of pain or uneasiness in the part.

The dressing was well borne; the position did not seem prejudicial to the case; the slight swelling subsided; and she permitted me, in a few days, to handle (gently pinch or press) the part without evincing pain. No swelling of the hand followed

the application, and in a few days the child was playing around as if nothing had occurred. I did not remove the dressing for six weeks, and when I did there was as free, painless, and extensive motion at the joint as could be desired, and, what was quite as gratifying, no deformity.

From that day to the present I recall but a single fracture in this vicinity that I have not treated in the extended position.† Some of them I have treated with no other support than strips of adhesive plaster; others with adhesive plaster supplemented with thin, well-soaked pieces of pasteboard or binders' board; while still others I have treated with material that soon hardened. A favorite dressing is as follows. With the arm in an easy, extended position, I envelop the elbow with cotton or some soft and yielding material, and around this apply a bandage. I do not consider it ever safe to apply the bandage directly to the skin when any hardening material is to be applied. I have tried it too often, and invariably to the detriment and hazard of the part, ever to resort to it again. Having encased the part in cotton, a bandage is applied, and the degree of firmness of its application will be measured by the amount of cotton about the part. After a single layer of bandage has been applied, and the cotton covered in, then the hardening material—white of eggs and flour, plaster of Paris, etc.—may be applied; over this a second layer of bandage, which will usually become, when dry, of sufficient firmness to act as a splint throughout the remainder of the cure. This will harden in a few hours; and should there arise any indication for removing it, it can easily be slit up longitudinally, thus making one or, if preferable, two perfect splints, which will serve during the remainder of the cure. If, however, there does not arise any indication for removing it, the dressing may be left undisturbed for a week or more, when it will become loose; and then, cutting it into halves, the arm may be dressed daily if desired, and

† This was a case of fracture of the internal condyle and luxation backward of the ulna, in a little girl about 5 years of age, a patient in the care of Dr. W. H. Parish, with whom I saw the case. The elbow was greatly swollen, and the diagnosis ascertained under ether. The arm was dressed at a right angle, to prevent a tendency of the humerus to shoot forward, and in the bend of the arm a large pad of cotton was retained by a bandage. The limb was treated for the most part on a pillow, with a sling for the hand. The result was most gratifying, both in respect to absence of deformity and early functional activity.

* Surgical Dispensary Service, Howard Hospital, 1518 Lombard Street.

these reapplied with a bandage external to them.

I desire here to state that many acquire a very faulty idea of the use of the bandage in its application to fractures. It is often thought that if the fractured ends of the bone move they will not unite, and hence *they must be firmly bound together* by splint and bandage; that a pad or compress must always be placed over the fractured bone, and that the bandage must secure it from re-displacement. There is a grain of truth in both these statements, but it is possible to give it too great prominence. In fractures of the condyles there is often no displacement, and hence no demand for either a strong splint or a tight bandage.

If it is preferred to place the arm at a right angle by the side during the cure, a starch or plaster dressing may be just as readily applied. All I especially desire to state is, that if the arm is placed in a *natural position*, and while in this position a dressing is applied that will harden and give it an easy natural support, one may confidently expect a good result without deformity.

One word in reference to the manufactured splints. I consider the posterior angular (*i.e.*, the wire trough) the best. This should be large, roomy, and well cushioned with lint or cotton. Let this be used rather as a rest and protection to the part than as a splint. If the anterior angular or internal angular splints are used, let them be very loosely applied. I believe, however, with their use some deformity will almost invariably follow, and hence I cannot too earnestly recommend their rejection.

In my remarks thus far I have had special reference to fractures as they occur in children, and when these take place in healthy children they are usually followed by a mild and tractable degree of inflammation. They are usually due to a slight fall, and often do not present deformity. It is in this mild variety of injuries that I place the arm in the extended position, apply my dressing, and leave it (when no counter-indications arise) two or three, or even four, weeks without removing it. But I do not lay this down as a rule. If I find the injury more extensive; if the person has fallen from a considerable height, or been projected with great force, and the elbow greatly swollen, then the

condition changes; then, having ascertained the extent of the injury (under an anæsthetic if necessary), and having reduced the fracture or injury, I *put my patient to bed,—whether child or adult,—*and direct my attention first to assuaging the necessarily great inflammation. In such cases I place the arm (in a position most comfortable to the patient) upon a pillow or broad, well-cushioned board, and apply to it lead-water and laudanum. I do not usually, in the height of this stage, use any splint whatever. At the end of a week or so, when the arm will permit of a more careful dressing, I usually make a second careful examination, under ether, before applying a felt or pasteboard dressing.

Early Passive Motion, to prevent Ankylosis.—As the cure advances, the question of function assumes prominence, and, as a rule, early passive motion has the sanction of the schools and text-books. It is not possible, upon this head, to lay down definite rules, but if I were obliged to do so, I should say that no motion of the joint should ever be permitted during the four weeks immediately subsequent to the accident. My reasons are simply these. If the accident has been just sufficient to produce the fracture, without doing much damage to the soft parts, there is no likelihood of much inflammation, and repair will be prompt and satisfactory if nature's course is not interfered with. If, on the contrary, the injury is of the graver sort, and early, excessive, and long-continued inflammatory action ensue, then I hold that during at least the four weeks immediately subsequent to the injury it is good surgery to direct one's attention to combating, subduing, and limiting the morbid process. If it were necessary, I could adduce cases treated by the most eminent surgeons, where every effort had been made to regain the early use of the joint, and where passive motion most judiciously employed was of no avail whatever. I trust in this I shall not be misunderstood. What I desire most of all to assert is that the above has been my course; that I have treated at least a dozen cases of fracture in this region, and not in a single one have I resorted to passive motion during the entire cure.

Persons who have had experience in fractures will not be influenced by the remarks of others. It is not to these, but

to the inexperienced, that I would state again the principle that has guided me,—viz, in the milder cases you will have no trouble unless you become too anxious and too officious. In your graver cases you must not hope for better success than crowns the efforts of our ablest surgeons; and if you examine their writings you will find that in some cases the function is not regained for many months. It is in this class (*i.e.*, the severer injuries of the joint) that one is inclined to become apprehensive of ankylosis, and to resort to early passive motion; but I am forced to the conclusion, from my own experience, from the experience of others with whom I have discussed this subject, together with the recorded experience of our ablest writers, that no good comes from passive motion earlier than the fourth week, while to resort to it when the inflammation is at its height is neither good surgery nor good sense. A certain number of this class will be followed by muscular rigidity,—plastic stiffening, a sort of painful ankylosis,—but this need not lead to alarm. It may require six months or a year to regain the function of the part, but this has been the fate of patients in the hands of the most skilful surgeons, and the lesson should not be lost sight of.

In regard to passive motion, let me add one word. The expression is well chosen, and if the term is understood the patient can scarcely ever suffer from it. See that the patient is passive; that he gives himself wholly into the surgeon's hand, while the latter institutes gentle, slow, and painless movements. Many a healing and painless joint has been retarded and rendered painful, swollen, and aggressive, by misunderstanding the meaning of the term *passive*. If early motion, then, is ever resorted to, let it be *passive* in its fullest, truest application.

In conclusion, let me say that it is scarcely within the limits of a single paper to discuss a subject of such importance in all its bearings. I have brought forward two points that may seem at variance with established usage, not to advocate their employment, but rather as facts. When I say that I have set at least a dozen elbows in the straight or extended position, the fact at least will be of some comfort to one who never resorted to this position if circumstances compel him to do so; and when I say, in addition, that in not one

of the twelve did I resort to passive motion during the cure, I am stating that which should lead those who claim immunity from ankylosis to early passive motion to reflect upon nature's own resources, and to give her some credit for redeeming the joint, instead of taking it all to themselves.

1604 SPRUCE STREET, PHILADELPHIA.

THE ACTION OF BRUCINE AND STRYCHNINE ON THE MOTOR NERVES.

BY B. F. LAUTENBACH, M.D.

IN No. 293 of the *Medical Times*, Mr. Robins presents some experiments on the action of brucine on the motor nerves, and alludes to experiments made by Dr. Klapp with strychnine, which seem to indicate that the motor paralysis observed after poisoning with the latter substance is due to its being contaminated with brucine.

During the last few months I have made upwards of a hundred experiments on the influence which these two alkaloids exert on the nerves of frogs, and have come to conclusions differing very much from those obtained by the above-named investigators.

BRUCINE.

Mr. Robins found that when he injected one centigramme of this substance into a frog tetanus resulted in a few minutes, and death (?) within ten or eleven minutes. If now the sciatics were irritated he found that they would no longer respond with the highest power of his battery. Experiments on mammals gave similar results.

These experiments, however, do not prove that this substance in the dose employed directly paralyzes the motor nerves. It is well known that the neurility of a nerve can be destroyed by the strain put upon it by a series of tetanic impulses, and this can easily explain the want of excitability of the motor nerves after an injection of brucine. In some experiments I cut out the heart of the frogs so as to prevent all circulation, and then brought a solution of brucine, acidulated with acetic or hydrochloric acid, on the exposed spinal cord. After a varying period of time tetanus resulted, and when this ceased the motor nerves would no longer respond to the strongest currents (induction apparatus of Gaiffe with two bichromate cells).

Again, when saponin, a substance which is absorbed with great difficulty, is injected into the medulla oblongata of a frog, tetanus immediately results. This lasts at the most three minutes, yet the motor nerves will be found to have become inexcitable to all manner of irritation. It could be shown in many other ways that the excitability of motor nerves can be reduced to zero by producing tetanus through chemical or mechanical irritations of the nervous centres, but the above will suffice.

How then are we to determine whether or not a substance which produces convulsions at the same time directly affects the motor nerves? One method for determining this is that employed by Kölliker in his experiments on strychnine. It consists in destroying the communications of the nerves of one leg with the centres, and then giving the substance under investigation. If the failure of the nerves to respond to irritants is due to a direct action on these structures, this operation will in no way change the result; but if it be due to exhaustion through tetanus, the cut nerve will continue to respond to irritants applied to it when the other nerves have ceased to do so. This method was adopted by the author in a number of experiments made with brucine.

The solution of the alkaloid employed in these experiments was similar to that used by Mr. Robins, *i.e.*, .01 gramme of brucine to 1 centimetre of water acidulated just sufficiently with absolutely pure acetic acid to produce a solution. The frogs used were, unless otherwise stated, of the temporaria variety, and weighed from 40 to 65 grammes. The roots of the sciatic nerve were cut at their exit from the spinal column. To prevent suffering, the cerebrum was destroyed in every instance before the experiment was commenced.

Experiment I.—*Rana temporaria*. Cut right sciatic nerve. At 10 A.M., 1 c. cent. of the solution was injected into the lymph-sac of the back. 10.21 A.M., tetanus in all parts of the body except in the right leg and foot; 10.50 A.M., the tetanus has ceased. 12.55 P.M., minimal contractions are produced from the right sciatic, when the distance between the bobbins of the induction apparatus is 15½ centim. From the left sciatic contractions first occur at 7½ centimetres.

Experiment IV.—*Rana temporaria*. Cut right sciatic nerve. At 1.14 P.M., 1 c. centim. of the solution was injected under the skin of

the thorax and abdomen. At 1.51 P.M., tetanus. 6 P.M., tetanus can still be produced by successions. 9.30 P.M., the animal appears to be dead, but circulation continues. The right (cut) sciatic responds to very weak currents, while the left fails to respond to the strongest current.

Experiment VII.—*Rana temporaria*. Cut right sciatic nerve. At 4.26 P.M., 2 c. centim. of the solution was injected under the skin of the back. 4.54 P.M., tetanus. 5.30 P.M., all movements have ceased. 5.37 P.M., both sciatics respond to the induction current with the bobbins at 11½ centim. distance.

Experiment VIII.—*Rana temporaria*. Right sciatic nerve cut. 4.24 P.M., 2 c. centim. of the solution was injected under the skin of the back. 4.40 P.M., long-continued tetanus. 5.20 P.M., all movements have ceased. 6.30 P.M., neither sciatic responds to the strongest induction currents.

Experiment XIV.—*Rana temporaria*. Cut left sciatic nerve. At 10.07 A.M., injected 4 c. centim. of the solution under the skin of the back and abdomen. 10.30 A.M., long-continued tetanus. 11.00 A.M., all movements ceased. 11.30 A.M., both sciatics failed to respond to the strongest currents.

The above-given experiments are examples taken from a long series of similar ones made by the author. The weight of the five frogs was between 50 and 55 grammes each. All were treated alike with the same solution of the poison, yet we find essential differences in the action on the motor nerves.

In Experiment I., the excitability of the non-cut nerve was much less than that of the cut sciatic, which if anything was above normal. In Experiment IV., the excitability of the non-cut nerve was abolished, while that of the other side remained about normal. These two experiments show that brucine in a moderate dose (1 part to 5000 parts the weight of the frog) does not paralyze the motor nerves through a direct action on these structures; but it can have this action indirectly through the "tetanic exhaustion" of the nerve.

In Experiments VIII. and XIV., larger doses were employed, and we have abolition of the electric excitability of the cut nerves as well as of those not cut. This shows that in very large doses (1 part to 1000 or 1500 parts of the weight of the frog) the drug can produce motor paralysis through a direct action on the nerves. This action, however, does not occur (see Experiment VII.), unless the dose be excessive, for several hours after the poisoning has taken place.

In still another manner I was able to prove that when brucine reaches the motor nerves in a sufficiently large quantity these structures are paralyzed. The method consisted in ligating the uppermost portion of the thigh of a frog just tight enough to prevent circulation in the ligatured leg. Under these circumstances, the nerves are for a number of days still able to transmit impressions to and from the centres. In frogs thus prepared one-half cub. centim. of the brucine solution was injected under the skin of the ligatured leg, great care being taken that the injection did not reach the nerve. Under these circumstances, the general symptoms of brucine-poisoning of course failed to occur, and only those which resulted from its diffusion in the ligatured leg were possible. The symptoms observed were, at first, loss of all sensibility except that for touch; later this also disappeared, as did the mobility of the extremity. Electrical irritation of the sciatic nerve failed under these circumstances to elicit any response.

Experiment XXIII.—*Rana temporaria*. Tied right leg, and at 10.15 A.M. injected $\frac{1}{2}$ cub. cent. of the solution under the skin of the ligatured leg. 11.00 A.M., sensibility to acids and the hot iron gone in the tied leg. Movements still occur in this extremity. At 1.30 P.M., movements no longer occur in the ligatured leg. Electric excitation of the sciatic nerve of the poisoned ligatured leg produces no movements.

Experiment XXVII.—*Rana temporaria*. Tied both hind legs. 3.10 P.M., injected $\frac{1}{2}$ cub. cent. of the brucine solution under the skin of the left leg. 4.20 P.M., the sensibility for acids and hot iron had disappeared. Touch causes movements in the same leg as well as in the rest of the body. The next morning, movement was abolished in the injected leg, while in the other ligatured leg the sensibility and mobility were unimpaired.

Considering the large dose of the drug necessary (2 to 4 centigrammes) to produce motor paralysis in frogs, we certainly cannot consider this paralysis other than as a possible symptom of brucine poisoning. A similarly large dose of almost any soluble salt would have a like effect.

Curiously enough, there is a salt of the alkaloid under consideration which produces, in at least one species of frog, as its almost sole symptom, paralysis of the motor nerves. About two years ago, Prof. D. Mounier presented to the Society of Physical and Natural Sciences of Geneva

the results of his experiments made with brucine which had been treated with hydrochloric acid. Frogs in whom he injected this preparation passed into a state resembling that produced by curare, without tetanus being produced. The motor nerves when examined electrically were found to have lost their excitability. Experiments which this investigator made with other salts of brucine failed to give similar results.

Having obtained some of Prof. Mounier's chloride of brucine, I repeated his experiments, but failed absolutely to confirm his results. Tetanus was always produced, and the symptoms of "curarization" were conspicuous by their absence. Knowing my preparation to be good, this result was surprising; but the correct explanation soon offered itself. Prof. Mounier's experiments had been made on *Rana esculenta*, while mine were made on *Rana temporaria*. With due deference to the opinion of the great German physiologist, who says, "Frosch ist Frosch" under all circumstances, I know that results obtained in experiments made on the nervous system of the one species of frog give no reason to believe that the same experiment will give the same result when the other species is used. For example, it is only necessary to observe the difference in the action of caffeine and of dry heat in the two species of frogs.

Recently I was able to obtain some *Rana esculenta*, and repeated the experiments. These frogs showed the curare symptoms just as they were described by Mounier. The chloride of brucine therefore acts like strychnine in the *Rana temporaria*, and like curare in the *Rana esculenta*.

STRYCHNINE.

In the *Journal of Nervous and Mental Disease* for October, 1878, Dr. Klapp advances the theory of Kölliker, that this alkaloid fails to affect the motor nerves. His paper is, unfortunately, entirely inaccessible to me, and I have only seen very imperfect extracts from it. From these, it appears that Klapp explains the different results obtained by the previous experimenters, on the supposition that the strychnine which they employed contained brucine, and that to this latter was due the loss of excitability of the motor nerves.

In the author's experiments two preparations of strychnine were employed,—the

acetate, and the alkaloid itself, made into a solution with the aid of hydrochloric acid. The former was obtained from Merck, and the latter preparation bore the name of Powers & Weightman. Neither of these preparations, as I have recently determined, reacts for brucine when examined by the nitric acid and chloride of tin test.

The first question which I sought to determine was whether strychnine could or could not directly paralyze the motor nerves.

To answer this question, the method previously described, of ligating one posterior extremity, was resorted to. Under the skin of the prepared leg two drops of a solution of the acetate (1 part to 500 of water) was injected. In seven to nine hours the mobility in that limb was destroyed and its nerves no longer excitable. Strychnine injected into the anterior portions of the body would produce tetanus in all the limbs except the one ligated. In several instances this motor paralysis disappeared after two days, and the animal again moved the poisoned limb. Two drops of a similarly prepared brucine solution failed to have the same effect.

Unless we conclude from these facts that the acetate of strychnine is able to produce paralysis of the motor nerves independent of any contamination with brucine, we will have to come to the absurd conclusion that a given quantity of strychnine can contain by weight more brucine than the original weight of the supposed strychnine.

Having determined that motor paralysis is possible through the agency of this alkaloid, it was necessary to produce this symptom by the introduction of the poison into the circulation. In a large number of frogs in whom one of the sciatics had been cut, one-half centigramme of the drug was brought under the skin of the back. Some of these animals were examined immediately after the tetanus had ceased. Under these circumstances the cut nerve always responded to electrical irritation. The other nerve sometimes responded, and at other times did not. In other frogs the irritation of the nerves was not made for several hours after the tetanus had ceased. In the few experiments made with *Rana esculenta* both nerves were found to be unexcitable; while in the *Rana temporaria* this result was arrived at somewhat later, yet before the circulation had ceased.

Several frogs thus prepared were kept in water over mercury to avoid all succussions. These animals remained alive for seventy to one hundred hours, having very rare attacks of tetanus. The fourth day I destroyed the central nervous system and examined the nerves. All the nerves, including the one whose connection with the centres had been severed, had lost their excitability.

Can this paralysis be possibly due to contamination with brucine? The answer to this must be given in the negative sense. As was before mentioned, it requires one part of brucine for every one thousand or fifteen hundred parts by weight of the frog in order to produce direct motor paralysis. For strychnine it requires but one part to nine thousand parts by weight of the frog to produce the same effect. It is therefore impossible that the motor paralysis from strychnine is due to contamination with brucine.

Conclusions.—Brucine treated with acetic acid injected into a *Rana temporaria* in the proportion of one part of the alkaloid to about fifteen hundred parts by weight of the frog, produces a non-excitability of the motor nerves through a direct action on these structures.

Brucine treated with hydrochloric acid produces the same effect in the *Rana temporaria*; but in the *Rana esculenta* it, in much smaller doses, paralyzes the motor nerves without having previously induced tetanus.

Strychnine treated with acetic or hydrochloric acid produces in the *Rana temporaria* paralysis of the motor nerves in one-sixth the dose necessary for brucine to produce the same effect.

PHYSIOLOGICAL LABORATORY OF GENEVA, April 5, 1879.

OSTEOTOMY IN GENU VALGUM.—Dr. Schmitt recommends that Ogston's operation should be performed in genu valgum, but not subcutaneously. This is thought to be a beneficial procedure, as the operator can see what he is doing, and hence accurately guide the saw, and renders unnecessary the forcible cracking of the internal condyle. Drainage can also be readily carried out. A case of a young girl is related in which this plan was followed. Antiseptic precautions were taken; and in three weeks the position of the bones was eminently satisfactory, without any bad symptoms having shown themselves. — *British Medical Journal*, May 17, 1879; from *Cbl. f. Chirurgie*.

NOTES OF HOSPITAL PRACTICE.

JEFFERSON MEDICAL COLLEGE
HOSPITAL.

CLINIC OF PROF. S. D. GROSS, M.D., LL.D., D.C.L.,
PROFESSOR OF SURGERY IN JEFFERSON MEDICAL COLLEGE, ETC.

(Continued from page 505.)

POINTS IN THE DIAGNOSIS AND TREATMENT
OF HIP-JOINT DISEASE—THE ACTUAL CAU-
TERY.

AS this child walks into the room, you notice how he spreads his lower limbs apart. He raises the right heel from the ground, and keeps the knee slightly bent. He is easily tired, and complains of pain in the knee. I am told that this boy suffers distress at night; he wakes up crying with severe pain, which he refers to the knee. Examining the knee-joint, we find that it is not the seat of abnormal heat or swelling, and appears healthy. What, then, is the cause of the suffering? This peculiar pain is one of the pathognomonic signs of coxalgia, hip-disease, or white swelling. It is a curious fact that the pain is at first referred to the knee, and attention is not called to the hip-joint until later. This reflected pain in the knee, the disease being in the hip, may be due to direct nervous connection through the trunk of the great sciatic nerve, which sends articular branches both to the knee and to the hip, or it may be purely reflex in its character.

Pain in the knee may also be due to scrofulous disease, from the effect of cold and suppression of the cutaneous perspiration in persons predisposed to such affections; but, after excluding disease of the knee, you may recall the fact that in hip-joint disease we generally find the pain referred to the knee; by overlooking this point young practitioners have been sometimes deceived.

The object of the peculiar walk we have noticed is to prevent pressure upon the affected acetabulum, and to rest the body upon the sound limb. The obliquity of the pelvis is explained in the same way: it is made very evident by placing the patient so that you can compare the position of the anterior superior spines of the ilium. Shortening of the femur does not take place in the early stages of hip-disease, but, on the contrary, there is apparent lengthening of the limb from this tilting of the pelvis. In the later stages the thigh-bone may be shortened by absorp-

tion of its head during the progress of caries or ulceration. The disease usually commences in the articular cartilages, and not in the bone, though it finally involves all of the structures of the joint, including the acetabulum and the intracapsular portion of the thigh-bone.

This affection I regard as essentially a strumous one in its origin, course, and termination. The morbid process may be awakened by a blow or some injury in cases where there is a strumous condition, which, however, must always precede it. It is merely a local manifestation of a diseased state of the system, no matter what has been said to the contrary.

It generally occurs in children of four, five, or six years of age, and I have met with it before the age of eighteen months. It is rarely seen after the age of puberty, and never after middle age; indeed, it is essentially a disease of early life.

From what I have said of its strumous character, it does not follow that there must be primarily an actual tubercular deposit in the articular cartilage or in the cancellated structure of the head of the bone, but it is necessary that there shall be a tubercular or strumous tendency. Not infrequently the deposit occurs in other portions of the body, and during the course of the disease this may become developed, in the lungs more commonly. I have seen a great many cases of this kind, and have published a number of them going to prove that this is the usual end of such patients.

This child's health has been seriously impaired by his suffering and the progress of the disease, which has now advanced to the stage of effusion. The limb is somewhat wasted, and when he is turned over on his belly you notice the flattening of the nates and the characteristic effacement of the gluteo-femoral crease on the affected side.

In order to arrest the course of the local trouble I shall apply the hot iron over the hip-joint, just behind the great trochanter, the issue thus made being kept open for several weeks. The very best of all issues is that made by the actual cautery at a white heat. The impression is not limited merely to the part, but is diffused throughout the system. I am very certain that in the course of twenty-four hours he will have no pain at all, and be comparatively comfortable. I shall in-

struct the persons who will have charge of the case to keep him in bed, and apply extension and counter-extension to the limb. We find that such an appliance prevents the irritable muscles from drawing the head of the bone spasmodically against the acetabulum during sleep, causing violent pain and disturbing his rest. The child, being thus suddenly awakened, may jump up in utter confusion, recognizing neither his parents when they speak to him nor the place where he lies.

The child being under the influence of chloroform, I shall move the limb freely, so as to break up any adhesions that may be forming, and next apply the hot iron at the place selected for the issue. The resulting eschar will be four or five times the size of the iron, and the sore left by its detachment will furnish several drachms of pus daily for a number of weeks, or until we think proper to allow it to heal up. The best dressing after the actual cautery is a cloth wrung out of cold water, reapplied every two hours. This dressing will be replaced by a flaxseed poultice, which will be changed twice daily during the after-treatment. The issue made by the hot iron does not heal quickly, and can be kept open for six or eight weeks.

Recollect that I send this child home with strict injunctions to keep him at rest in bed, with a nourishing, not a restricted, diet. He shall also have tonics and syrup of the iodide of iron, alternating with cod-liver oil. The limb shall be extended by an appliance similar to that used for fractured femur, and the child kept quiet for a number of weeks; at the end of that time we will apply an apparatus that will allow him to take exercise in the open air.

TREATMENT OF ANAL FISSURE.

This man was operated upon at the last clinic for fissure of the anus. He has had two evacuations of the bowels since then, one yesterday and one this morning, but had no pain, although he always had very great pain before when the bowels were moved. The operation has been a success. It consisted, you will remember, in forcibly stretching the sphincter muscles and rupturing some of its fibres, subcutaneously or submucously, by the surgeon inserting his thumbs within the anus and separating them with considerable force. This paralyzes for a time the sphincter muscles, and allows the little lineal ulcer or

crack, known as anal fissure, to get well. The procedure is a simple one, and effectually relieves the patient, who always suffers atrocious pain when he visits the water-closet, which may continue for a long time afterwards, so that he habitually defers evacuation of the bowels as long as possible, and consequently suffers from constipation, which only increases his trouble.

HARE-LIP AND CLEFT PALATE—TIME FOR OPERATING.

This is a little girl in good health, about six months of age, who has a hare-lip and cleft palate. The former defect is easily remedied, but the latter requires a more formidable operation. The object is to close the fissure by a plastic operation. It is a comparatively tedious and severe procedure, and is sometimes followed by fatal results. Sir William Fergusson mentions three cases in his work on surgery in which death resulted. These patients died from the shock of the operation. It is said that children of this age are extremely liable to convulsions after a surgical operation, though I have never witnessed a case of convulsions in all my life from such a cause in all the operations that I have performed.

I shall close the gap in the lip this morning in the usual manner, reminding you of the three steps of the operation. First, the upper lip is separated from the gum and alveolar process at the site of the cleft and for some distance on each side. The chasm is a wide one, and the lip must be detached quite freely in order to prevent undue traction when the wound is brought together. The second step of the operation is to pare the edges of the cleft in the lip, so that the borders shall be a little concave, and thus prevent a notch in the upper lip after the wound has healed. Finally, the raw edges are brought together with a few points of the interrupted suture; the first pin being inserted at the vermilion border of the lip, so that the border shall be even, the next at the base of the nose, and one between, one or two stitches being also used to bring the edges of the skin together in the interspaces, if required. In winding the waxed ligature around the pins, it is made to form an oval, not a figure of eight, over the pin, and the silk is carried from one pin to the other so as to cross between them. A little chloroform is needed for the operation in older children, but is not essential for young infants.

Small sponges on handles are very useful to keep the mouth free from blood, although if the coronary arteries are controlled by artery-compressors but little bleeding occurs. These are applied to the upper lip at the corners of the mouth; they are merely *serres-fines* of good size. In separating the lip from the gums, the knife must be kept in as close contact with the bone as possible, or there will be danger of hemorrhage. After the operation the child requires to be well fed with plenty of good milk, or it will be fretful and the success of the operation will be interfered with. Do not forget to cut off the points of the pins, or they may cause trouble.

In regard to the cleft in the vault of the mouth, we find that it extends entirely through the bony as well as the soft palate, from the alveolar processes to the uvula. Nothing will be done at the present time for this deformity. As the child grows older an obturator can be worn, but a surgical operation cannot be attempted until the patient is of the proper age, at about the fourteenth or sixteenth year.

Now, as good old Ambrose Paré used to say after an operation, "I have done all that I can do; God must do the rest." The child is not a strong one, and if I had followed my own inclinations I would have postponed the operation until five or six months later. The upper pin may be removed at the end of the second day, and the lower one in three or four days; if taken out too soon, before union is strong, there is danger that the wound will separate when the child cries.

CLINICAL HISTORY AND TREATMENT OF ENLARGED TONSILS—OPERATION.

Here is a young lady who is only 7 years of age. She is laboring, I am told, under an affection of the tonsils, which are greatly enlarged, as a result of long-standing chronic inflammation. If this patient were brought to me in a dark room and should address me, I would, from the sound of her voice, have no difficulty in pronouncing as to the nature of her trouble. The crevice between the two tonsils, I find upon examining the parts, is much diminished by the swelling of these bodies, and it is still further reduced by an elongated uvula. The consequence is that there is great difficulty in getting sufficient oxygen into the lungs, especially when the child is lying down at night. There is difficulty in breathing, she struggles for breath, and

has to lie with the head thrown backwards, so as to bring the mouth nearly in line with the trachea. She is a lusty snorer, and as a result of her exertions sweats at night,—not perspires, but sweats,—and has to prop up her head and shoulders with pillows to get relief from the threatened suffocation. The breast in these cases is flattened in front and arched behind, from the constant over-action of the respiratory muscles in trying to overcome this difficulty.

In addition, there is another trouble, that of indistinct articulation; the voice is muffled and strained. In many cases also the growth of the body is stunted, because not enough oxygen is received for proper stimulus of the system.

What I propose to do for the patient's relief is to remove a part of each tonsil,—not the entire tonsil, but a considerable portion of it. No anæsthetic is needed for this operation; it is quickly performed, and, moreover, we need the co-operation of our patient. In young children we meet with more difficulty in accomplishing our purpose, and it is well to wrap the little one up in a sheet, so as to confine his limbs and prevent struggling by making a cylinder of his body, and we may even be compelled to give a few whiffs of chloroform. In former years, before the discovery of chloroform, I used to be worried very much from this cause, and often had my fingers bitten.

Enlargement of the tonsils is occasionally met with in very young children, and is sometimes even congenital. Often, if, indeed, not generally, we find that these children are of a strumous habit of body, and badly nourished. Sometimes the application of nitrate of silver in strong solution twice a week for a long time will be sufficient to remove a moderate enlargement.

There is rarely much bleeding after the operation; oozing may be checked by rinsing the mouth with vinegar and water. The gland is not only swollen, but it is diseased in its structure, and its vessels are enlarged, so that some oozing will occur, which will, however, tend to relieve the congestion. There is occasionally a great amount of bleeding after the operation, and I have had six or seven cases where it was considerable, and even alarming, causing great anxiety at the time; but they were subsequently relieved by styptics and pieces of ice held in contact with the surface,

keeping the mouth open so that the wound was exposed to the action of the air. In performing the operation, the head is thrown back and the mouth widely opened, so as to throw the light freely on the pharynx. The patient being seated on a chair, the prominent part of the tonsil is seized with volsella, and a portion of it removed with a probe-pointed bistoury, cutting from below upwards.

After the operation the patient should be kept free from exposure, and cautioned against taking cold; she must also live on slops for a few days, and avoid solid food; this is about all the precaution required.

I said a few moments ago that this child does not perspire at night, but sweats. Let me caution you against using this word in your practice: a horse *sweats*, a gentleman *perspires*, a lady *glows*. A lady would feel very much offended if you should apply a less polite term in speaking to her.

F. W.

TRANSLATIONS.

SECRETORY AND TROPHIC GLAND NERVES.

—R. Heidenhain asserts that there are two sorts of fibres contained in the secretory nerves of the parotid,—the so-called *trophic* fibres, which influence the secretion of the organic matters, and *secretory* fibres, which influence the secretion of water and salts. The cerebral gland nerves contain chiefly secretory fibres, so that the secretion they cause is relatively poor in organic matter; the sympathetic contains chiefly trophic fibres, so that the secretion following its excitation is richer in organic matter. In the parotid of the dog the sympathetic carries only trophic fibres, so that its excitation does not give rise to any visible secretion.—*Pflüger's Archiv*; from *Cbl. f. Chir.*, 1879, p. 371.

TANNIC ACID BATHS.—Shafer, in a brochure on this subject, recommends tannin baths in leucorrhœa as far superior to the annoying and repugnant custom of tamponing the vagina heretofore employed. By the second or third bath the secretion diminishes, the mucous membrane loses its red color, assumes a firmer consistence, and in some cases of leucorrhœa, even of long standing, ten baths have sufficed to make a cure. In amenorrhœa, also, Shafer has obtained good results from this procedure. In the case of a young woman suffering from amenorrhœa with anæmia, who

was so forlorn she could scarcely drag herself about, three baths sufficed to cause a decided change. Her appetite returned, her color came back, and soon the menses reappeared. Shafer also urges the use of the bath in dysmenorrhœa, metrorrhagia, etc. He has likewise found it useful in prolapsus vaginæ or recti, in the chronic cystitis of old men, in chronic skin affections, atonic ulcers, etc.—*Le Mouvement Méd.*, 1879, p. 255.

QUEBRACHO: A NEW REMEDY IN DYSPNOEA.—Penzolt received, some time ago, from Brazil, a package of bark from the *Aspidosperma quebracho*, a tree belonging to the *Apocynææ*, said by South American physicians to possess anti-febrile properties. An alkaloid has been extracted from this by Baeyer, but this has not yet been tried, a tincture of the bark being employed by Penzolt, who found little or no anti-febrile effect from its use. On the other hand, he found it of value in various forms of dyspnoea. The formula used was as follows: ten parts pulverized bark were extracted for a week with one hundred parts alcohol, filtered, evaporated, dissolved in water, again evaporated, and dissolved in twenty parts of water. Of this solution, one or two teaspoonfuls were given twice or thrice daily. It could be continued indefinitely without fear.

Penzolt concludes as follows: we possess in quebracho bark a remedy which, without any ill effects, diminishes or puts an end, within an hour, to various forms of dyspnoea in the different diseases of the lungs and circulatory apparatus. The effect produced is manifested by a reduction in the frequency of respiration, often in the depth of the cyanosis, and, above all, in the subjective anguish.

The bark, which alone is as yet procurable, is used in commerce for tanning leather.—*Berlin. Klin. Wochens.*, No. 19, 1879.

TREATMENT OF METRORRHAGIA BY CAFÉ NOIR.—What will not be used next for uterine hemorrhage? Després comes out with two cases of intractable metrorrhagia in which he prescribed six cups of strong infusion of coffee in a single day, with perfect and immediate success, the hemorrhage ceasing within twenty-four hours. Després thinks the caffeine contracted the heart and blood-vessels.—*Four. des Sci. Méd. de Louvain*, 1879, p. 217; from *Moniteur Thérap.*

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 2, 1879.

EDITORIAL.

DIET IN HEALTH AND DISEASE.

SIR HENRY THOMPSON, who is equally clever with the catheter and with the pen, has just published, in *The Nineteenth Century*, an entertaining dissertation on "Food and Feeding," in which, after enumerating the various articles of vegetable and animal food ordinarily consumed by Englishmen, with a long additional list of those which could with advantage be made use of, he gives a sketch of the dinner-table as it is and as it might be. Sir Henry writes for the intelligent and well-to-do classes, and his scheme for dinner-parties, though fascinating even to the eye, is only intended for such. It is, perhaps, well that the physician who is also a gastronome should give the world his views upon the important subject of food and drink for the upper classes. Enough remains to be done even here towards settling the ideal bill of fare. But the question suggests itself, why should not this be done for the million, and why should not the physician, who now in these latter times is enlarging his field of usefulness by the study of "preventive medicine," add to this the study of food and drink, not merely from the physiological but from the more practical dietetic standpoint?

Nothing could be more satisfactory, in their way, than the efforts which have recently been made in New York by Miss Juliet Corson, and elsewhere by others, to give a cheap, practical dietary to the poorer classes; but this is only in one direction. What is now needed, it seems to us, is a careful study of the proper forms of diet suitable for invalids, dys-

peptics, and convalescents. It is true that some physicians — many, perhaps — have been compelled by necessity to frame such dietaries for their own use in daily practice. But no book, we believe, exists in the English language like the popular German "Dietetic Cook Book" and the "Dietary for Dyspeptics" of Wiel, — convenient and practical hand-books, which can be perused with benefit by the doctor and recommended with confidence to the patient.

The young physician, suddenly called upon to frame a dietary for his patient, is often at a complete loss where to begin, and is too apt to recommend a few articles of food, almost at hap-hazard, and forbid some of the worst indigestibles in the same way.

A ready sale, we venture to say, and a great reputation, await the first satisfactory and convenient work which shall be written upon the subject of diet for the invalid and convalescent.

LEADING ARTICLES.

THE USE OF THE FORCEPS AND ITS ALTERNATIVES IN LINGERING LABOR.

II.*

THE admirable opening address of Dr. Barnes was not followed up with the ability which might have been expected, some of the addresses being prolix and not very edifying. The opinions of the leading English obstetricians on this subject have much interest, however. Dr. George Kidd, of Dublin, in reference to the "high operation," thought no one would hesitate to apply the forceps when the os is nearly or entirely dilated, and the head lying at the brim and making no progress. The point is, are we to use the forceps when the os is undilated? Dr. Kidd thought not. Even when the os is dilatable, he thought manipulation better. Even, also, when the os was dilated to an inch and a half, to proceed and introduce the forceps to drag the head down through

* See Medical Times, No. 302, p. 458.

it was, he believed, a dangerous practice. He preferred the warm bath, chloral, or chloroform, etc. When, however, there is some minor disproportion or a malposition, Dr. Kidd would use the forceps high up with the os undilated. "But," he concluded, "to let it go forward as our teaching that we may always use, or should always use, the forceps early in the first stage of labor, when there is no urgent demand for it, except the time that has been passed, would, I think, be most unfortunate for society, and for our profession."

Dr. Thorburn, of Manchester, inveighed against the use of ergot with an undilated os, and urged the more frequent employment of chloroform. Prof. Stevenson, of Aberdeen, and Mr. Newman agreed with Dr. Barnes. Dr. Malins, of Birmingham, maintained that in the majority of cases in which the "high operation" is used the alternative of turning is as efficient as easy, and as safe a practice as the use of the forceps. Dr. Alderson and Mr. Worship followed, urging the frequent employment of the forceps. Dr. Edis considered the forceps as an aid to supplement the defective arrangements of nature, and not as a last resort. When evidence of flagging powers showed itself, he would apply outside pressure by the hands or with a binder. He would not use ergot. Dr. Lombe Atthill thought that if any aid was necessary to midwifery, the forceps was superior to any other. With respect to the use of ergot, this was absolutely prohibited in the Rotunda Hospital, under his management. The real question at issue, he thought, was whether the use of the forceps was justifiable in cases in which the os was not fully dilated. As to this, Dr. Atthill said, "I avoid the use of the forceps before the os is fully dilated in all cases in which I can do so; but, on the other hand, if a case occurs in my practice in which I believe it imperative to deliver the woman before the os is fully dilated, I unhesitatingly have recourse to the use of the forceps, notwithstanding that the os uteri is not fully dilated. I believe that practice is safer than the practice of version."

Dr. McClintock, of Dublin, could not agree with Dr. Atthill in his denunciation of ergot. He (Dr. McClintock) customarily used it in the later stages of labor, and could see no objection to its employment. He considered it a most valuable

remedy, and not likely to do harm. He agreed with Dr. Barnes as to the use of the forceps in the higher operation. Dr. Roper, of the Royal Maternity Hospital, appeared as the most strenuous opponent of frequent use of the forceps. When used in lingering labor due to inertia, he used ergot at the same time. Although ergot stimulates the uterus to increased action, it does not always succeed in expelling the child. When the influence of the ergot is expulsive, the forceps is not needed. When, however, the uterus under the influence of ergot merely seems to contract upon the child, death will ensue unless the forceps are used to aid expulsion. We cannot expel the child by pressure from without on the fundus, as we can the placenta. Yet these manipulations may excite the uterus to contraction. The forceps may also be used in the opposite variety of cases, where in robust primiparae the powerfully-acting uterus in the end is unable to overcome the rigidity of the soft parts of the outlet. We are warned by the pains becoming less forcible and frequent, and there is less movement with each pain. Here we should anticipate the occurrence of dead-lock, and supplement the powers of nature before the breakdown takes place.

As to the high operation, Dr. Roper had never seen a single case of death, either of child or mother, or of damage to the maternal structures, from a protracted first stage of labor. Of course, it is understood that allusion is made to natural labors, with the exception of a rigid state of the os uteri. A wide distinction must be kept up between a head above the brim which does not come down, because in the one case it is obstructed by the brim itself (a bony obstruction) and in the other by the rigid os and lower segment of the uterus. In nervous women who bear their pains badly, the forceps may be used with propriety. The forceps are used too frequently, and it is possible that much of the gynaecological work of the present day results from this frequent interference with the natural functions in childbirth. Dr. Roper himself has only used the forceps eighty times in nine thousand three hundred and eighty-nine cases.

Dr. Braxton Hicks spoke of *trismus* of the uterus, where the foetus is held firmly grasped; and here chloroform may be substituted for the forceps to advantage. This

irritable condition of the uterus is sometimes brought on by the too early use of ergot. Occasionally fissures of the cervix occur without the forceps having been used, and occasionally, perhaps, the forceps used high up is blamed for these.

The discussion was then adjourned to a later meeting.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting held at the hall of the College of Physicians, Philadelphia, April 9, 1879, Dr. Henry H. Smith, President of the Society, in the chair, Dr. O. H. Allis gave a lecture upon "The Pathology and Treatment of Fractures of the Lower Extremity of the Humerus," and presented several cases showing bad results from treatment by the ordinary angular splint, anterior or internal.

Dr. Packard thought that fractures about the elbow-joint might be divided into three classes: 1, those in which there was mere fissure, with no tendency to displacement, in which splints were needless; 2, those close to the joint, in which muscular action produced a tilting forward of the lower fragment, by which, after union, flexion was stopped at a certain point; 3, those running into the joint, which were likely, under any treatment, to be followed by permanent stiffening.

He referred to a former communication of his to the Society upon this subject, and described a splint made of binders' board, from which he had many times, as he thought, obtained exceptionally good results.

He maintained that, in fractures near the joints, *early and frequent passive motion should be the rule*. The fracture can be firmly grasped, and very gentle motion impressed upon the joint, which otherwise will stiffen until the force necessary to move it may re-fracture the bone. He thought that in the cases of violent dealing mentioned by Dr. Allis as seen by him there was bad surgery, either at that time or in the previous treatment,—probably both. One other point; he thought it always a bad thing, for the surgeon as well as for the patient, for the latter to be dismissed with the assurance that "it will all come right." The treatment, or at least the oversight, of the case should continue until the final result is attained.

Dr. R. J. Levis had been interested in the lecturer's remarks, which he considered very instructive. Fractures of the elbow are more liable to be followed by annoying deformity than those of any other portion of the body. One point in the pathology of these fractures is suggested by the remarkable similarity in

the deformity that results. Taking a supra-condyloid, more or less transverse, fracture of the humerus, we will observe that the lower fragment is usually carried backward and upward, the proximate end of the fractured shaft projecting in front, giving the appearance of a dislocation of the forearm backward. In the books this fracture is generally considered to be the result of direct violence upon the elbow, which is mechanically almost impossible. In the speaker's opinion it is caused in the same manner as fracture of the lower end of the radius, *i.e.*, by *over-extension*, or cross-breaking strain. The deformity is due not so much to the muscles inserted near the joint, the biceps, triceps, and brachialis anticus, but to the muscles of the arm and forearm, such as the supinator longus and the extensors, which produce a partial rotation of the lower fragment very difficult to overcome, and very likely to persist after union has taken place. A large number of dry specimens that he had examined had invariably shown this partial rotation on the long axis of the shaft of the humerus.

In regard to treatment of fractures in general he had become skeptical as regards splints, and had largely discarded them from his treatment of fractures at the Pennsylvania Hospital. The box used in fractured leg is hardly a splint at all; in fracture of the thigh he uses extension and steadies the limb with sand-bags. In fracture of the humerus he generally binds the arm to the side; when in the upper part of the humerus, no splint that has ever been devised will do anything at all in bringing the parts into their proper relations: the *postural* treatment is the only method that will do this. In some cases the forearm must be fixed behind the patient; in a case of an old gentleman he could only get the fragments in proper position by putting the arm at right angles to the body, and he had been obliged to keep him in bed with his arm fully extended for a month. In cases such as the lecturer had shown he was convinced that the splints may do great harm.

In reply to a question, he said that in the treatment of fracture of the thigh he did not look upon sand-bags as splints, and moreover he generally found them either away from or under the patient, so that he would often much rather not use them at all, relying solely on full extension by weight.

Dr. O. H. Allis said that, as a rule, he would recommend rest for about four weeks before beginning passive motion; but when the fracture extends into the articulation regular movements must be made as soon as any inflammatory symptoms around the part had subsided, in order to preserve the use of the joint.

EPIDEMIC OF PNEUMONIA IN PHILADELPHIA.

Dr. Henry H. Smith called Dr. Burns to the chair, in order to present an account of the

mortality from pneumonia that had recently prevailed in Philadelphia. At the beginning of February he had been struck with the number of deaths from pneumonia, and had called the attention of the Society to the matter, which was subsequently discussed at a special meeting.* The deaths from pneumonia for the week ending February 8, 1879, were one-sixth of the whole mortality; there were forty-five to fifty deaths per week from acute pneumonia. He had inquired whether there was any peculiarity in the form of the pneumonia, and had invited gentlemen from different portions of the city to participate in the previous discussion, when at least fifty physicians were present. At that meeting not one of those present would admit that he had three cases under treatment; although there must have been four or five times as many cases as those that ended fatally, which would indicate a prevailing epidemic. While the deaths from bronchitis were not increased, and those from phthisis were about as usual, the deaths from pneumonia actually exceeded those from consumption. From the fact that the gentlemen who attended the previous meeting, and who were engaged in active practice, had seen so few cases, he had taken the trouble of visiting the Health Office to see who furnished the certificates. Out of 177 certificates 46 were from members of this Society, only 4 from irregular practitioners, and 3 or 4 from the coroner; all the rest are from regular practitioners, and therefore presumably from those who are able to give a correct diagnosis.

A serious question now comes up: Is there anything wrong in the prevailing method of treatment of this disease? The results are certainly not so successful as formerly; whether due to different manner of living or to difference of treatment is yet to be decided. It is to be feared that our young men have been influenced by the views of German pathologists, whose patients are under entirely different surroundings. Pneumonia was not formerly regarded as a very fatal disease under the old treatment; certainly the results are very different now. Why this is so is a subject well worthy our consideration.

Dr. R. A. Cleemann said that he had noticed the same high rate of mortality recently occurring in England and Ireland, and did not think it necessary to call into question any other cause than the season of the year and the prevalence of cold winds and moisture.

Dr. George Hamilton said he had no doubt that to the unusual prevalence of cold, damp, and changeable weather was to be referred much of the fatality of the present epidemic of pneumonia. He did not think the mortality was greater, in proportion to population, than had long ago occurred when typhoid pneumonia was epidemic in this city, and probably many cases this season were of that

type. Error in diagnosis is supposed by some to have led to a return to the Board of Health of a larger number of deaths from pneumonia than really took place; but why such error should occur this season rather than another does not appear. If, in fact, as is generally admitted, pneumonia is at the present time exceptionally modified as to symptoms, we should infer that too few, instead of too many, deaths have been returned under this title. The allusion just made by a member to the views of a prominent lecturer who was disposed to regard the existing epidemic as influenza rather than pneumonia, recalls to mind the extraordinary outbreak of influenza in 1829, when it was thought that some in nearly every other family were affected by it; yet the percentage of deaths was greatly below that of the present epidemic, and was confined in great measure to aged persons,—just the reverse of what has occurred this season. Pneumonic inflammation is epidemic nearly every year in this city, and, like several other affections, is subject to variations in symptoms, yet without losing its specific character; and certainly, if its normal character should, at times, simulate that of influenza, a lesser degree of fatality, not a greater, might rationally be expected.

Dr. M. O'Hara had noticed the prevalence of pneumonia, which had a downward tendency on the beginning.

Dr. Laurence Turnbull called attention to the cold weather and great velocity of the winds during the latter part of the winter, which were unusually marked.

Dr. Robert Burns, of Frankford, had noticed an unusual number of cases in his neighborhood, which he attributed to the great cold and changeableness of the weather. In almost all of the patients he had noticed that the characteristic rusty sputum of pneumonia was absent, and there was no sputa whatever in many cases. There was generally marked consolidation of the lung in his patients, but there was absence of crepitus from the beginning, in almost every case. In many there was also found a great deal of laryngeal and bronchial inflammation, particularly in the minute bronchial structure closing the air-cells. He had been surprised to find so much said about pneumonia, and thought there must be a tendency among a certain class of practitioners to call every trouble of a pulmonary nature pneumonia. He had observed an intermittent character in many of the cases; there was a change every two or three days, with considerable inflammation; there was not a great deal of fever, and it was easily controlled, but there was a great degree of prostration. He had given quinine freely, with good results. The disease was not typhoid pneumonia, but intermittent bronchitis, with obstruction of the air-vesicles, in his experience, and he expressed the opinion that there was not as much pneumonia as had

* Report, Phila. Med. Times, p. 359, current volume.

been imagined. Although he had a few cases of pneumonia with the characteristic symptoms of crepitus and brickdust-like sputum, yet these were few compared with the above-described cases.

Dr. F. Woodbury said that a possible explanation of the large number of cases of asthenic pneumonia, and especially its prevalence among elderly people, might reside in the fact that the city, at the period named, was passing through an epidemic of influenza, in common with other communities along the Atlantic coast, as had been pointed out by Professor Da Costa in a recent clinical lecture.* The peculiar characters of the present series of cases of pneumonia would correspond readily with the theory of its being a secondary rather than a primary disease, as it is generally held that pneumonia, occurring as a complication to influenza, differs materially in its course from ordinary croupous pneumonia, and is accompanied by a relatively large mortality among the very young and also among those advanced in life.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

May 7, 1879.

DR. ISAAC RAY read a paper upon the subject of *recoveries from mental disease*. A wide difference of opinion has always existed respecting the curability of insanity, which, contrary to expectation, the information gained from the establishment of hospitals in recent times has failed to reconcile. Dr. Earle, in examining the matter of *recoveries* as exhibited in the statistics of hospitals for the insane, has found that thirty or forty years ago the proportion of recoveries was much larger than it has been of late years. Dr. Earle accounts for this by suggesting two sources of error committed by the reporters. One of these depends upon the idiosyncrasy of the individual, temperament, constitutional organization, etc. Self-interest and ambition may have prompted more favorable returns in some cases than in others.

Again, Dr. Earle says that "the reported recoveries from insanity are increased to an important extent by repeated recoveries from the periodical or recurrent form of the disease in the same person; and consequently the recoveries of persons are much less numerous than the recoveries of patients or cases; and, consequently, from the number of reported recoveries of cases, or patients, it is generally impossible to ascertain the number of persons who recovered."

These views are not borne out by the facts, properly interpreted. The temperament of physicians, taken together, is just about the same now as it was fifty years ago. There is

the same proportion of sanguine men who take too hopeful views of their patients' condition, and cautious men who tend to give unfavorable prognoses. Then, too, the practice of reporting cases of recovery instead of persons permanently cured was no more common than now.

As, then, neither the temperament of the physician nor the repeated counting of periodical cases accounts for the larger proportion of recoveries in the earlier times, we must look for the explanation in another direction, and we shall find it in various agencies that have come into operation in later times.

These are the ingathering of a larger proportion of non-violent, chronic, less curable cases, dependent upon the wider popularity of hospitals for the insane, the actual increase of insanity in our midst, owing to the high pressure of modern life, and, as a result of this, the appearance of new forms of mental disease heretofore unknown.

These, then, are the points which are believed to have been fairly made,—viz.:

I. Those qualities of temperament which lead men to unduly magnify their achievements are as common at one time as at another.

II. The practice of reporting cases instead of persons has not been confined to any particular period, and therefore, while it may vitiate our estimate of the curability of insanity, it cannot make the proportion of recoveries larger or smaller at one period than at another.

III. Cases marked by high excitement entered our hospitals in a larger proportion to those of an opposite character fifty years ago than they do now.

IV. Under the influences of highly civilized life the conservative powers of the constitution have somewhat depreciated, and to that extent impaired the curability of insanity.

V. During the last fifty years, cerebral affections in which insanity is only an incident have been steadily increasing, and thus diminishing the proportion of recoveries.

June 4, 1879.

Dr. ROBERT P. HARRIS reported, on behalf of Dr. JOHN L. ATLEE, of Lancaster, Pa., a remarkable case of *congenital ventral gestation*, the subject being a girl 6 years old, who recovered after the discharge of the foetal mass from her abdomen, and lived seventeen years. A record of the case in question, with the exception of its early history, is contained in the work of the late Washington L. Atlee on "Ovarian Tumors."

The subject of the anomaly in question was Ann, daughter of Mr. Solomon Oswald, of York, Pennsylvania, aged 6 years, who presented in very early childhood an appearance of irregular conformation and enlargement of the abdomen. She was of delicate build, with fair complexion, light hair and

* Phila. Med. and Surg. Reporter, March 8, 1879, vol. 21, p. 208.

eyes, and belonged to a consumptive family. In the progress of her disease, an abscess formed in the lower portion of the epigastric and upper part of the umbilical regions, which opened, and a mass presented itself, which in time protruded through the abdominal wall. The physicians of York, fearing to explore this, applied ligatures on several successive occasions to the protruding portion, with the effect of removal by strangulation, under which process a very offensive effluvium was given out. Soon after these removals the whole remaining mass escaped, and this was preserved in a bottle of alcohol. It was then discovered that the enclosing sac still contained a mass of hairs, and, as the patient was by this time in a very low state, she was carried upon a pillow to Dr. Atlee's, in Lancaster, for his professional advice, and the specimen in the bottle submitted to him for opinion. This was in the summer of 1844.

Dr. Atlee found a weak, delicate, emaciated girl, with an abdominal fistula, and hair protruding from it. He removed the hair, and, having washed and dried it, found that it weighed two drachms. It was soft, light-colored, and of varying lengths, the longest portions measuring from ten to twelve inches. After the cyst was empty of its contents the girl's health began to improve, but it was soon discovered that the sac in some way communicated with the stomach, as evinced by the escape of articles of food through the fistula. Dr. Atlee writes, "Notwithstanding the care which was taken to allow nothing to be eaten but soft and easily digestible food, she had been so much indulged previously that she insisted on having berries and green corn; and I well recollect, on one occasion, seeing a large quantity of whortleberries, and, on another, of grains of Indian corn, which passed in that way."

When her general health had sufficiently improved, the child was taken home, and attended to by her father, who was a very intelligent druggist. The cyst gradually contracted to a fistula, which continued open until she was 14 or 15, when it closed up, leaving a button-like projection about the size of a quarter-dollar, which always remained. The girl developed into a fine and handsome young lady, menstruated at the age of 12, and continued to be regular until she fell a victim to phthisis pulmonalis at the age of 23.

The mass contained in the bottle was sent to Philadelphia, to be dissected and prepared by the late Prof. William R. Grant, by whom it is described in "Atlee on Ovarian Tumors," page 199.

Within the mass there was traced, with some difficulty, a tolerably perfect, though considerably distorted, skeleton, as shown in the cut.

It is very evident, from the description of Professor Grant, who was a skilful anatomist, that the body under inspection was not a der-

moid tumor, but a product of generation,—a twin, we may say, of the girl, within whose abdomen the germinal trace was partially and irregularly developed. The monster by inclusion is certainly one of the most difficult of all the duplex types to comprehend and explain on the principles of teratological science. One germinal or twin trace would



Skeleton as dissected from the mass.

appear, for some unaccountable reason, to maintain a dormant vitality, like that of an unsprouted seed or severed bud, while the other develops and surrounds it. In the changes of growth and nutrition that occur in the body after birth the dormant germ appears to be better nourished, is stimulated to grow, and may finally assume the characteristics of a hard tumor, an abscess, or a cystic growth, especially if located in the abdomen, breaking down the health of the subject, and, in almost all such instances, ending fatally. In the case before us there is no mention

of any ascitic or encysted fluid having been detected, and I presume there was no such complication to endanger the life. The probability is that the foetal growth was much more superficially located than is usual in such cases, and hence the discharge of it during life, and the favorable termination of the case.

After a careful and extensive search for parallel reports, Dr. Harris said he had found no authentic record in which a congenitally-enclosed foetus was removed from the abdomen, during the life of the child, with recovery. He added a condensed record of some of the most remarkable cases of foetus by inclusion that have been published during the last seventy-five years.

A NEW SUBSTITUTE FOR CHLOROFORM.—"Ethidene" is said to possess the valuable anæsthetic properties of chloroform, without lowering the blood-pressure to anything like the same degree. Ethidene has been administered to twenty persons, of various ages, during surgical operations (sometimes prolonged), with satisfactory results. — *British Medical Journal*.

REVIEWS AND BOOK NOTICES.

DISEASES OF THE THROAT AND NASAL PASSAGES: A GUIDE TO THE DIAGNOSIS AND TREATMENT OF AFFECTIONS OF THE PHARYNX, ŒSOPHAGUS, TRACHEA, LARYNX, AND NARES. By J. SOLIS COHEN, M.D., of Philadelphia. Second Edition, revised and amended, with 208 Illustrations; pp. 742. New York, William Wood & Co., 1879.

The second edition of Dr. Cohen's classical work fully merits the words on the title-page,—revised and amended. "To the reader familiar with the first edition, considerable change will be apparent in the present one. Some material has been suppressed, some modified or augmented, and some added."

The first chapter is devoted to diseases of the throat in general; the second to the examinations of the throat and nasal passages; the third and fourth to sore throat, both common and specific; while the fifth, consisting of over sixty pages, is really a brochure on diphtheria. This chapter is not only of absorbing interest, but full of information which will render every practitioner of medicine good service in his hour of need. In alluding to the apparent identity of croup and diphtheria, the author gives a table showing the differences between the two diseases, but he admits that the majority of medical men of the present day believe that these two diseases are identical. The treatment of diphtheria is copiously set forth in twenty pages, the author's own manner of treatment being very concisely stated in four or five pages.

In Chapter VI. the various forms of chronic sore throat are described, and their treatment given. Chapters VII. to IX. are devoted to special affections of the soft palate, the uvula, the tonsils, pharynx, and Œsophagus; and Chapters XI. to XIV., inclusive, to affections of the nasal passages, the septum narium, frontal sinus, the larynx, and the trachea. Chapter XV., in over twenty pages, treats of artificial openings into the larynx and trachea, excision of the larynx, etc. The author gives preference to the silver tracheotomy tube, and for facilitating its introduction has invented a "rigid conductor," of which a figure is given on page 673 of the work under review. When the tracheotomized individual is obliged to wear a tube, in order to aid his power of speaking, the author recommends, as the best for this purpose, Luer's pea-valved tracheotomy tube. He also describes an artificial vocal apparatus, of Gussenbauer, devised to remedy the loss of voice following extirpation of the larynx. Chapter XVI. is devoted to affections of the laryngo-pharyngeal and glosso-epiglottic sinuses, and the concluding chapter (the seventeenth) to external affections of the neck. There is also connected with this book that which is usually not men-

tioned by a reviewer,—an excellent index, which is always one of the most valuable parts of any good book.

In conclusion, we have but to say that we regret that space limits what could be said in praise of a treatise the size and worth of this. The entire work is characterized by thoroughness, fairness, and extent of research, which recommends it, above all works on this subject, to the profession at home and abroad.

C. H. B.

EMMETT'S PRINCIPLES AND PRACTICE OF GYNÆCOLOGY. With One Hundred and Thirty Illustrations. By THOMAS ADDIS EMMETT, M.D., Surgeon to the Woman's Hospital of the State of New York, etc. Philadelphia, Henry C. Lea, pp. 855.

This volume, fresh from its distinguished author, is before us. To those at all familiar with his original and graphic articles as they have from time to time appeared in our journals, the mere mention that he has written a systematic work on gynæcology will be sufficient to awaken in them a greed which, we can safely assert, will not be forced to go a hungering after the perusal of the volume.

Books, even by specialists, too often deal extensively in generalizations, giving but little satisfaction to him who consults them for special or detailed information. Not so with the present volume, however. Quoting from the text, p. 117, "The object in view throughout the work will be to impress the reader with the fact that *success in the treatment of the diseases of women lies wholly in attention to minute details.*" This is the key-note which reverberates from every chapter; and, just as *attention to detail* is repeatedly enjoined in the general management and operative procedures, so the author, filled with its necessity, fails not to carry his precepts for practice into his writing, by entering into detail extensively, yet without prolixity.

As a treatise on gynæcology, the work is simply what its author claims for it, viz., a "Clinical Digest," representing "Emmett's Principles and Practice of Gynæcology." The precepts and practices of others, save where they accord with the author, receive little or no attention. This, however, instead of being a weakness, as might at first appear, is, we believe, a positive strength, inasmuch as such material is obtainable elsewhere, and also as it enables the reader, with greater ease and less confusion, to obtain the author's personal views.

To specialize the chapters of particular interest would be to give the "Table of Contents" entire. That on "Principles of General Treatment" is especially unique and rich in its suggestiveness, and sufficiently minute in detail to awaken many intelligent responses in the shape of improvements in the general practice of the day. The chapter is full of wrinkles that no one can afford to be without.

The chapters descriptive of operations are admirable in their completeness of detail, and are eminently worthy of extensive discipleship, both from writers and practitioners. We are very much mistaken if this very matter of careful detail in describing operations will not insure for this author more disciples than almost any writer on any branch of medicine has ever enjoyed.

There is but one feature in the book which we would like to have omitted. It is more than unpleasant to have an author who is filling you with enthusiasm over his originality in methods of thought and action, stoop so often to claim that "I was the first to advocate this," or "I was the first to introduce that to the profession," in speaking of a special form of needle, or some even much more trivial matter. Yet it is not his claim to priority to which we object, but his manner of putting it. It is a small matter, of course, but in such a book a small matter of this sort becomes the more conspicuous.

No general practitioner or student of gynecology can afford to be without this volume, for the exceptionally large experience of the author, whose rich and ripe results are embodied in every chapter, and the concise and yet comprehensive manner in which each subject is handled, giving the details of treatment throughout, leave no doubt in the reader's mind what is the author's belief or of the manner in which he puts his belief into practice.

J. B. W.

THE NATURE OF REPARATORY INFLAMMATION IN ARTERIES AFTER LIGATURE, ACUPRESSURE, AND TORSION. By EDWARD O. SHAKESPEARE, A.M., M.D. Washington, Smithsonian Institution, March, 1879. Octavo, pamphlet, pp. 70.

This brochure, which is the seventh of the series of "Toner Lectures," is based upon original researches by the author, and is illustrated by a series of admirable drawings by the same hand, which have been reproduced by a photographic process. Beginning with a historical sketch, followed by a summary of prevalent opinions as to the organization of blood-clots and the nature of the healing process in arteries after ligation, Dr. Shakespeare goes on to detail the experiments which he has made in the production of clots in vessels by the methods specified, and the results of subsequent careful microscopic examination of these clots. He finishes with a summary of the conclusions to which his investigations have led him, which are stated in a clear and succinct manner, and cannot fail to influence the opinions in future to be held upon this subject. Some of these investigations were included in a former essay of Dr. Shakespeare, which gained the Warren prize a year or two ago, and the work is one which is alike creditable to the author, and one more evidence of the good scientific work

which is being done by the younger members of the staff of the University of Pennsylvania.

CLINICAL LECTURES ON DISEASES PECULIAR TO WOMEN. By LOMBE ATTHILL, M.D., etc. Fifth Edition, revised and enlarged, with Illustrations. Philadelphia, Lindsay & Blakiston, 1879. 12mo, pp. 342.

A work which has reached the fifth edition has evidently found favor with the public, and needs no commendation. The author says that the whole work has been carefully revised, a portion rewritten, and some omissions which existed in the former editions have been rectified. We note, as a particularly valuable feature of the book, the full directions for making examinations and the application of remedies. Dr. Atthill is an advocate of the use of arsenic in menorrhagia. Given in the dose of three to ten drops (of Fowler's solution), alone or combined with ten-drop doses of tincture of digitalis, three times a day, between the periods, it often acts very happily. Strychnia is another favorite remedy with Dr. Atthill. Added to ergot in cases of parturition, he says it greatly increases the efficacy of the latter drug, being especially useful when post-mortem hemorrhage is dreaded. It is also useful in combination with iron, in many cases of amenorrhœa, in the dose of one-twenty-fourth of a grain gradually increased.

NAVAL HYGIENE—Human Health and the Means of Preventing Disease, with Illustrative Incidents, principally derived from Naval Experience. By JOSEPH WILSON, M.D., Medical Director U. S. Navy. Second Edition, with Colored Lithographs, etc. Philadelphia, Lindsay & Blakiston, 1879. Octavo, pp. 274.

Intended chiefly for the masters of ships and other non-medical persons connected with the care of sailors, this book contains much of interest and profit for the medical reader. The various measures employed for the preservation of health and the treatment of disease on ship-board are treated in an agreeable fashion, and the book is one which it is pleasant to read, even for one not particularly interested in naval hygiene. While not pretending to the rank of a scientific treatise, it is written from a scientific stand-point, and is up to the times in all respects. The fact of its having attained a second edition shows it to have been appreciated by those for whom it is intended.

MEDICAL CHEMISTRY, including the Outlines of Organic and Physiological Chemistry. Based in part upon "Riche's Manuel de Chimie." By C. GILBERT WHEELER. Philadelphia, Lindsay & Blakiston; Chicago, S. G. Wheeler, 1879. 12mo, pp. 424.

Manuals of medical chemistry have vastly multiplied of late, and, in order to gain a

tention, any new claimant for popular approbation must present something unusually original in matter or arrangement. This requirement is scarcely filled by Prof. Wheeler's book, which, although of fair size, is so loosely printed that it does not contain as much matter as many smaller treatises. The omissions, too, are such as seriously impair the value of the work to the medical student. Thus, he is supposed already to be acquainted with inorganic chemistry and familiar with the principles of modern chemical philosophy. But if this is the case he probably knows most or all of what Prof. Wheeler desires to teach, or possesses already some other book covering the whole ground.

DIPHTHERIA; ITS NATURE AND TREATMENT, VARIETIES AND LOCAL EXPRESSIONS. By MORELL MACKENZIE, M.D. Lond. Philadelphia, Lindsay & Blakiston, 1879. Octavo, pp. 101.

In this little book Dr. Mackenzie, the well-known specialist, gives a concise and interesting account of diphtheria, its etiology, diagnosis, and treatment. Dr. Mackenzie's large experience enables him to speak with authority, and no one who expects to meet such cases in his practice can afford to overlook what he says.

PRACTICAL SURGERY. By J. EWING MEARS, M.D. Philadelphia, Lindsay & Blakiston, 1878. Octavo, pp. viii., 279.

This book is not made; it has grown. It is the result of years of teaching the classes in operative surgery in the Jefferson Medical College, and is just such a hand-book as every student will need. It treats of surgical dressing, bandaging, ligations, and amputations, or those branches of operative surgery which the student can make himself master of on the manikin and the cadaver. It is very fully illustrated, having nearly as many cuts as it has pages, and they are well chosen.

So far as we know, it is the only one of the books on this subject which gives the antiseptic system in detail. The author has also not omitted the plaster-of-Paris bandage, Sayre's suspension apparatus, and other novelties and improvements. So rapid is the march of improvement, however, that even since this book has been issued Sayre's jacket, it seems likely, is to be displaced by the porous felt jackets, which accomplish the same objects with many additional advantages.

In the matter of the operations on the cadaver, we are glad to see the attention of students called to the differences between operations on the cadaver and on the living body. These are very often overlooked by teachers, who, familiar with these facts by every-day experience, forget that to students they are utterly unknown.

The rules for the operations are, in general,

clearly and correctly given, and are always based on the previously-stated surgical anatomy of the parts involved. W. W. K.

GLEANINGS FROM EXCHANGES.

ELASTIC ADHESIVE DRESSINGS.—In order to close wounds of the soft parts, more especially superficial wounds, where the presence of sutures would increase inflammation, Dr. Vogel uses strong moleskin adhesive plaster. Along the edges of the two pieces, which are cut as long as the wound, are arranged a series of little buttons, half an inch removed from each other. The plaster, extending far enough to catch a firm hold on the integument, is applied warm, the contiguous edges being about one-half or three-fourths of an inch removed from the edge of the wound. An elastic cord is then "zigzagged" across like a corset-string, making the needed judicious traction.

The buttons have a rounded head like a small shot, a short neck, which sets into a flattened, rounded plate, about one-fourth of an inch in diameter. The holes are punched through the plaster about half an inch from the edge, which is to be parallel with the wound. The small end of the button is pushed through this hole, and the plaster is then turned under between the skin and the broad base of the button, which is firmly held between the two adhering surfaces of the plaster. Hooks may be sewed on, and would answer the same purpose.—*Hospital Gazette*, May 17; from *Centralblatt für Chirurgie*.

INCONTINENCE AND RETENTION OF URINE IN CHILDREN.—Mr. Teevan, in a paper read before the Harveian Society, says that the great point is to make out the diagnosis, for unless this is done all treatment is simply empirical. A physical examination should be made in all cases. Mr. Teevan says,—

The surgical causes that may give rise to incontinence are—1, rectal complaints, such as piles, fistula, excoriations; 2, ascarides; 3, a tight foreskin; 4, congenital insufficiency of the external urethral orifice; 5, a calculus impacted in the urethra. The above are fertile causes of the complaint, and all remediable. All of them set up and keep up irritation, and produce incontinence by reflex action. Probably of all the above causes the fourth and fifth are but little suspected of giving rise to trouble. A tight foreskin is a common cause of complaint, and I always advocate its removal, as it is usually followed by the best results. It is well known that the meatus externus is the narrowest part of the urethra, but the relation of its size to the rest of the canal is perhaps not so much attended to as it ought to be. There is a general belief to the effect that so long as there is a hole it suffices for micturition. This, how-

ever, is erroneous. If the relation of the calibre of the external orifice to the general urethra be disproportionate, the result is that the urine cannot escape as fast as it ought to do, and irritation is set up in the peripheral extremity of the nerve, which disturbs the vesical centres. For instance, if a boy of twelve or fourteen years of age have a meatus that will only admit a No. 3 catheter, and be suffering from incontinence, we ought at once to suspect that the local obstruction is the cause. Now as regards the last cause of incontinence,—a stone impacted in the urethra. If I could not discover anything wrong with the rectum or urethral orifice, I would pass a very slender sound, having a beak only half an inch long, to ascertain if there were any stone impacted in the urethra. It is not generally known that a stone in the urethra may give rise to incontinence or retention, according to where it may be situated. If the calculus has only just entered the meatus internus, it will be firmly and accurately embraced by the sphincter, so that no urine can escape along the sinuosities in the stone. If, however, the stone advance half an inch further, incontinence will be the result, for the calculus will then act as a gag, and prevent the sphincter from closing, and the urine will dribble away along the sinuosities of the stone. For a knowledge of this fact I am indebted to Civiale's works, and in several cases of incontinence it has enabled me to detect a stone impacted in the urethra. It might be at first sight imagined that if a calculus be impacted in a boy's urethra it would give rise to great pain and discomfort, but this is not so. As the urine dribbles away, the stone may cause but little annoyance; indeed, I have known patients who have had calculi impacted in their urethrae for years without being aware of it, so little discomfort was there caused. Therefore it would be well not to be misled by the quiescence of the parts. In cases of incontinence where a surgical cause cannot be elucidated, I have found belladonna most useful where the complaint was only nocturnal, as also Sir D. Corrigan's plan of sealing the meatus externus with collodion at bedtime. Strychnia is indicated where the incontinence is diurnal as well as nocturnal. Blistering and an exclusively milk diet must not be lost sight of. If all means fail, the application of a mild solution of nitrate of silver to the neck of the bladder is justifiable.

Retention of urine in children is usually due to one of three causes: 1, congenital contraction of the meatus externus; 2, phimosis; 3, stone. The first two causes can be at once determined by ocular inspection. As regards calculus, Mr. Teevan says, It may appear to some that it is easier to discover a calculus in a child when its bladder was full rather than empty; this, however, is not so. If a stone cause retention, it must be a very small one, and will, therefore, be found lying at the neck

of the bladder, and will be struck as the sound enters that organ. If the bladder be examined when distended, the surgeon will have to grope about after the calculus, and perhaps not find it. If, on the other hand, he sound the patient when his bladder is empty, the stone will be brought to him. Extreme care should be used in sounding children for stone, as peritonitis readily supervenes on too rough handling.—*Lancet*, May 24, 1879.

INCONTINENCE OF URINE.—In the *British Medical Journal* Dr. J. C. Flood recommends tincture of cantharides in minim doses, with tincture of the chloride of iron, given thrice daily and in gradually increasing doses. Mr. Holderness suggests the following:

R Acidi benzoici, ℥ii;
Syrupi aurantii, ℥iij;
Aque, ad f℥vj.

A sixth part three times a day.

The third dose should be given in bed, the bladder having been previously emptied.

Another correspondent suggests the following combination:

R Potassii bromid., ℥j;
Extract. belladonnæ, gr. iv ad vj;
Infus. digitalis, ad f℥viij.

For an adult, half an ounce twice a day. For a child, a drachm, three times.

POSTURE AS A MEANS OF RELIEF IN STRANGULATED AND INCARCERATED HERNIA.—At the end of a very interesting paper read before the New York Academy of Medicine recently, by Dr. Frank H. Hamilton, the following conclusions are stated: *First*, as to our ability to increase the diameter of the hernial apertures, except by resort to herniotomy. Hernial apertures can seldom be relaxed or opened by any measure except by a surgical operation. The apertures do not, only with rare exceptions, actively compress the protruding viscera, but the viscera become constricted by pressure against the apertures. Relaxation of these apertures is not, therefore, ordinarily a part of the mechanism of the release of a strangulation and of the return of the viscera. *Second*, as to the effects of taxis and inward traction. Taxis, or pressure from without in, judiciously applied, is first in point of importance as a means of reducing strangulated hernia. Inward traction, judiciously employed, is only second in importance to taxis. It is effected indirectly by paralysis of the abdominal muscles, through the agency of posture or of general muscular relaxants, and by emptying the bladder and lower gut. It is effected directly by peristalsis, anti-peristalsis, and gravitation through the agency of posture. The following means of reducing hernia, alluded to by Dr. Hamilton, may be briefly mentioned: 1. Emptying the bladder and rectum and distracting the attention of the patient. 2. Chloroform, bleeding to syncope, or the hot bath to syncope. 3. Ice as a local application can only relieve the button-holing when it is due to congestion of the ves-

sels, and then only when the circulation is not completely arrested. 4. Opium, which acts indirectly in paralyzing the abdominal muscles. 5. Emetics act probably by upward traction. 6. Purgatives, like emetics, do harm when not successful; they act probably by producing anti-peristalsis. 7. Tobacco and other enemata cause general muscular paralysis. 8. Postures in which the viscera are dragged towards the upper portion of the abdominal cavity are directly useful.—*Hospital Gazette*, 1879, p. 220.

PALUDAL TORTICOLLIS.—M. Jules Simon records a case occurring in a child four years old, who suffered every day about the same time from spasmodic contractions of the sterno-mastoid, lasting four or five hours. It had previously suffered from several attacks of intermittent fever. It recovered under quinine treatment.—*Canadian Jour. Med. Sci.*

TREATMENT OF PROLAPSE OF RECTUM.—Dr. Jas. O. Whitney says, in a letter to the *Boston Med. and Surg. Jour.*, "I notice, in *Journal* for April 10, apparatus for prolapse of rectum, etc. I have recommended for twenty-five years the mother to place the finger in front of rectum (anus), press up and pull forward the flesh during defecation. This prevents descent of the bowel."

NEW FORM OF LIGATURE IN ANEURISM.—Mr. Barwell, in giving an account of a successful deligation for aneurism of the carotid and subclavian arteries, said that the ligature used had been the subject of much care and experiment. Catgut has been shown to be unreliable for tying vessels in continuity; it does not appear that this depends on the method or period of soaking in carbolic oil. The author attributes its defects to the method of manufacturing the catgut itself. Putrefaction in water enters largely into this process; different parts will have suffered in various degrees from putrefaction. But more objectionable even than this is the shape of the ligature, for it is difficult, perhaps impossible, to avoid dividing the inner coats of vessels tied with a round cord. Now, it is this division of vascular coats that exposes patients to the dangers of secondary hemorrhage, which has been the cause of death in almost every case hitherto recorded of tying the innominate or first part of the subclavian. An organizable ligature, which, being flat, does not divide the arterial coats, ought to secure surgery against this danger. After many experiments, Mr. Barwell had hit on the idea of using the middle coat of oxen's aorta, which, being quite fresh, is to be prepared by separating it from the outer coat and by cutting it spirally, thus making long, flat, tape-like ligatures, which are dried under suspension by a weight, to remove superabundant elasticity. Just before use they are moistened to restore entire flexibility. Before attempting operative surgery with this material it had been tested experimentally in various ways, and in the case recorded its action had

left nothing to be desired.—*Lancet*, vol. i., 1879, p. 771.

LAXATIVE BREAD.—Mr. W. H. Taylor says, in the *Lancet*, that he has lately had bread prepared as follows, and found it most useful in ordinary constipation and as a laxative in piles: coarse Scotch oatmeal, whole wheat flour, coarse ordinary flour, of each equal parts. The bread can be lightened by yeast, or, to a two-pound loaf, one tablespoonful of baking-powder, made of four ounces of bicarbonate of soda, three ounces of tartaric acid, one pound of ordinary flour, rubbed well together and kept dry in a tin or well-corked bottle. The bread keeps well, and a two-pound loaf will be sufficient for a week, taking a portion once or twice a day in conjunction with ordinary bread.

POISONING BY IODOFORM.—Not much is at present known of the toxic effects of iodoform, and considerable interest therefore attaches to two cases which have been published by Oberlander. The maximum dose given was .8 gramme (twelve grains) daily in a pill. The symptoms of poisoning occurred in one case (a woman twenty-six years of age) after forty-two grammes of iodoform had been taken in eighty days; in the other case (a woman sixty-nine years of age) after five grammes had been taken in the course of seven days. The symptoms produced were giddiness, vomiting, and deep sleep, from which the patient could be roused with difficulty. This somnolence was interrupted by periods of excitement, each lasting several hours, and was followed by delirium, headache, sense of impending death, spasmodic contractions of the facial muscles, and, in the case of the younger patient, diplopia. The functions of the other sensory organs were not disturbed, and the pupils presented a normal reaction. Deep inspirations alternated with apnoea of about half a minute's duration. After five or six days the toxic symptoms gradually lessened and passed away.—*Lancet*.

LARYNGEAL PHTHISIS.—F. H. Bosworth, M.D., at the close of an article on this subject, gives the following conclusions: 1. Laryngeal phthisis may develop from a simple catarrhal inflammation, if there exists an impaired state of health from any cause. 2. The progressive stages are catarrhal infiltration, catarrhal ulceration, and follicular inflammation, and tubercle plays no part in its primary causation and development. 3. The disease is far more amenable to treatment than is generally taught, especially if treated in the earlier stage. 4. Tracheotomy is justifiable as a remedial measure, when local remedies fail to relieve, and before it is demanded by dyspnoea from inflammatory stenosis.—*New York Medical Record*, May 27, 1879.

TREATMENT OF DIARRHŒA BY THE HOT-WATER DOUCHE.—Schorstein advises, in the *Wiener Med. Presse*, No. 49, 1878, the application of a douche of hot water under strong pressure to the umbilical region, in cases of

diarrhoea. The temperature is at first 50°, but may be raised to 72°. The duration of the application lasts from three to five minutes; after it the patient takes a hip-bath of 50° to 62°. This treatment is generally repeated not more than twice daily. Dysenteric diarrhoeas combined with tenesmus, and dysentery itself, if not inveterate, are treated in the same way. The effect is very rapid, and lasts much longer than opium treatment does; the pain is also calmed very quickly. The author has also found this hot douche answer in cases of colic caused by biliary calculus, and in many kinds of neuralgia, sciatica excepted, where it was desirable to remove renal calculi and gravel, or long-accumulated fecal matter.—*London Med. Record*, April 15, 1879.

MISCELLANY.

OBITUARY.—We regret to record the premature decease of two young but rising physicians of this city. Dr. BENJAMIN B. YOCUM, who died on July 21, of typhoid fever, after a brief illness, was well known and highly esteemed, particularly in the University Hospital, where he had charge of the medical outpatients' department. Dr. FRANCIS G. SMYTH, who died on July 24, at the age of 35, was already well known as a successful practitioner in the lower part of the city.

THE ORDER OF ST. KATHERINE.—The Queen of England has recently established an order somewhat analogous to the male orders of knighthood, which have long been the reward of merit in various fields. It is to be bestowed upon women who have distinguished themselves as nurses, and has received the name of St. Katherine, we believe, because the money which is to support it is derived from an old charitable foundation or "hospital" of that name long since disused, and the funds of which have accumulated for many years.

CONSANGUINEOUS MARRIAGES.—Dr. Lathrop, in the *Boston Medical and Surgical Journal*, June 12, 1879, has obtained the statistics of twenty-five consanguineous marriages in Massachusetts. These resulted in the birth of 107 children. Of these children 92 were sane, 4 insane, and 11 idiotic. Of the 15 whose minds were unsound, 9 became so from known causes other than the consanguinity of parents. Only 6, therefore, of the 107 children could have been made insane by the near relationship of their parents, and even in these cases there may have been other causes.

AMENITIES OF MEDICAL JOURNALISM.—The following choice *morceau* is from one of our Southwestern journals. Speaking of another journal, from which certain extracts had been made, the editor remarks, "As an apology for inflicting on our readers any extracts from so filthy a source, we can but say that the wisest

of our profession have, on frequent occasions, obtained valuable intelligence, as regards a patient's condition, from a careful inspection of that indispensable article of bedroom furniture so often used, but never seen or mentioned in the vicinity of polite circles; so we, with olfactories cautiously guarded, will, from time to time, carefully scrutinize our poor, pitiable contemporary's filthy discharges, and, if we are ever again so fortunate as to find therein anything that may be of interest, we will republish it for the benefit of more intelligent readers than they can claim."

A SUMMER MADRIGAL (air "Pinafore").—

"Now the boy climbs up the trees,
And the verdant fruit doth seize;
And immediately the poison in his stomach camps,
And so do the fidgets and the colic and the cramps."

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM JULY 13 TO JULY 26, 1879.

MOORE, JOHN, MAJOR AND SURGEON.—Granted leave of absence for one year, with permission to go beyond sea. S. O. 171, A. G. O., July 24, 1879.

SMITH, JOS. R., MAJOR AND SURGEON.—Having reported in person at these Headquarters, assigned to duty as Medical Director of the Department, to date from 25th instant. G. O. 8, Department of Texas, June 28, 1879.

WHITE, C. B., MAJOR AND SURGEON.—Granted leave of absence for six months on Surgeon's certificate of disability. S. O. 171, c. s., A. G. O.

MOFFATT, P., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person at these Headquarters, assigned to duty at Camp Winfield Scott, Kittitas Valley, W. T. S. O. 81, Department of the Columbia, July 3, 1879.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 75, Department of Arizona, June 27, 1879.

SEMIG, B. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported in person at these Headquarters, assigned to duty at Fort Fred. Steele, Wyo. T. S. O. 61, Department of the Platte, July 15, 1879.

KANE, J. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Jefferson Barracks, Mo., and to report to Commanding General, Department of the Missouri, for assignment to duty. S. O. 164, A. G. O., July 15, 1879.

BREWSTER, W. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to Commanding General, Department of the Platte, for assignment to duty. S. O. 164, c. s., A. G. O.

BANISTER, J. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Columbia Barracks, Ohio, and to report in person to Commanding General, Department of the Missouri, for assignment to duty. S. O. 164, c. s., A. G. O.

APPEL, A. H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Willer's Point, N. Y. H., and to report in person to Commanding General, Department of Dakota, for assignment to duty. S. O. 164, c. s., A. G. O.

RICHARD, CHARLES, FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at David's Island, N. Y. H., and to report in person to Commanding General, Department of Dakota, for assignment to duty. S. O. 164, c. s., A. G. O.

CARTER, W. F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Monroe, Va., and to report in person to Commanding General, Department of Texas, for assignment to duty. S. O. 164, c. s., A. G. O.

STORROW, SAMUEL A., MAJOR AND SURGEON.—Died at San Francisco, Cal., July 12, 1879.